

IN THE CLAIMS

Please find below a listing of all of the pending claims. The status of each claim is set forth in parentheses. This listing will replace all prior versions, and listings, of claims in the present application.

1. (Currently Amended) A method of determining location information for a computer system node in a network, the method comprising:

determining a first distances from the node to ~~at least one~~ a set of global landmark nodes;

determining a second distances from the node to ~~at least one~~ a set of local landmark nodes proximally located to the node, wherein the set of local landmark nodes are different than the set of global landmark nodes and the set of landmark nodes are located in routing paths between the node and the global landmark nodes; and

determining location information for the node based on the first distances and the second distances.

2. (Currently Amended) The method of claim 1, wherein determining location information comprises determining location information associated with a physical location of the node in the network based on the first distances and the second distances.

3. (Currently Amended) The method of claim 1, wherein determining location information comprises generating a landmark vector including the first distances and the second distances.

4. (Original) The method of claim 3, further comprising transmitting the landmark vector to at least one other node in the network storing landmark vectors for a plurality of nodes in the network.

5. (Original) The method of claim 3, further comprising:

hashing at least a portion of the landmark vector to identify a location in an overlay network for storing the landmark vector, wherein the overlay network is a logical representation of the network; and

transmitting the landmark vector to a node at the identified location to store the landmark vector.

6. (Currently Amended) The method of claim 1, wherein determining [[a]] first distances from the node to ~~at least one~~ the set of global landmark nodes comprises:

transmitting a probe packet to ~~the at least one~~ each global landmark node; and

measuring round-trip-time to ~~the at least one~~ each global landmark node using the transmitted probe packet.

7. (Currently Amended) The method of claim 6, wherein determining [[a]] second distances from the node to ~~at least one~~ the set of local landmark nodes comprises:

receiving an acknowledge message from ~~the at least one~~ each local landmark node receiving the probe packet, ~~wherein the at least one landmark node is in a routing path between the node and the at least one global landmark node;~~ and

determining the second distances to the ~~at least one~~ set of local landmark nodes in response to receiving the each acknowledge message.

8. (Currently Amended) The method of claim 1, wherein determining [[a]] second distances comprises:

selecting a plurality of the local landmark nodes within a predetermined distance from the node; and

determining distances to each of the plurality of local landmark nodes.

9. (Original) The method of claim 1, further comprising selecting a predetermined number of nodes in the network to be global landmark nodes and local landmark nodes based on the number of nodes in the network.

10. (Original) The method of claim 9, wherein selecting a predetermined number of nodes in the network to be global landmark nodes comprises randomly selecting a predetermined number of nodes in the network to be global landmark nodes.

11. (Original) The method of claim 9, wherein selecting a predetermined number of nodes in the network to be local landmark nodes comprises randomly selecting a predetermined number of nodes in the network to be local landmark nodes.

12. (Original) The method of claim 9, wherein selecting a predetermined number of nodes in the network to be local landmark nodes comprises:

identifying nodes located near at least one gateway router or including the at least one gateway router in the network; and

selecting at least one of the identified nodes to be a local landmark node.

13. (Original) The method of claim 9, wherein a number of global landmark nodes in the network is less than a number of local landmark nodes in the network.

14. (Currently Amended) The method of claim 1, wherein determining ~~[[a]]~~ first distances ~~from the node to at least one global landmark node~~ comprises determining distances to all of the global landmark nodes in the network.

15-16. (Canceled).

17. (Currently Amended) The method of claim ~~[[16]]~~ 1, wherein at least some of the local landmark nodes are ~~routersthe plurality of local landmark nodes includes a plurality of routers in the routing path between the node and the at least one global landmark node.~~

18. (Canceled).

19. (Currently Amended) A computer system node in a network comprising:
means for determining a first distances from the node to ~~at least one~~ a set of global landmark nodes;

means for determining a second distances from the node to ~~at least one~~ a set of local landmark nodes proximally located to the node and the ~~at least one set of~~ global landmark nodes, wherein the set of local landmark nodes are different than the set of global landmark nodes and the set of landmark nodes are located in routing paths between the node and the global landmark nodes; and

means for determining location information for the node based on the first distances and the second distances.

20. (Original) The node of claim 19, further comprising:

means for identifying a location in an overlay network for storing the location information using the location information, wherein the overlay network is a logical representation of the network; and

means for transmitting the location information to a node at the identified location to store the location information.

21. (Currently Amended) A computer system operable to connect to a peer-to-peer network, the computer system comprising:

a processor operable to determine a physical location of the computer system in the peer-to-peer network by determining distances to ~~at least one~~ a set of global landmark nodes and ~~at least one a set of~~ local landmark nodes proximally located to the computer system in the peer-to-peer network, wherein the set of local landmark nodes are different than the set of global landmark nodes and the set of landmark nodes are located in routing paths between the node and the global landmark nodes; and

a memory operable to store location information associated with the physical location for the computer system.

22. (Original) The computer system of claim 21, wherein the memory is operable to store location information for a plurality of nodes in the peer-to-peer network that are physically close to the computer system.

23. (Original) The computer system of claim 21, wherein the processor is operable to identify a location in an overlay network for storing the location information using the location information, wherein the overlay network is a logical representation of the peer-to-peer network.

24. (Original) The computer system of claim 21, further comprising a network interface operable to connect the computer system to the peer-to-peer network, wherein the computer system is operable to transmit the location information to the identified location in the overlay network via the network interface.

25. (Currently Amended) Computer software embedded on a computer ~~readable medium~~ storage device, the computer software comprising instructions performing:

determining a first distances from the node to ~~at least one~~ a set of global landmark nodes;

determining a second distances from the node to ~~at least one~~ a set of local landmark nodes proximately located to the node, wherein the set of local landmark nodes are different

than the set of global landmark nodes and the set of landmark nodes are located in routing paths between the node and the global landmark nodes; and

determining location information for the node based on the first distances and the second distances.

26. (Original) The computer software of claim 25, further comprising instructions performing:

identifying a location in an overlay network to store the location information using the location information, wherein the overlay network is a logical representation of the network.

27. (Original) The computer software of claim 25, wherein instructions performing identifying a location in an overlay network comprise instructions performing hashing the location information to identify a location in the overlay network to store the location information.

28-30. (Canceled).

31. (Currently Amended) The computer software of claim ~~[[29]]~~ 25, wherein the ~~plurality of~~ local landmark nodes are located within a predetermined distance to the node.